

REMARKS

Claim 1 was pending. Claim 1 was rejected. Claim 1 is being amended for purposes of clarity. Claim 2 is being added. Claims 1 and 2 are pending. Reconsideration is respectfully requested.

Specification

The Examiner objected to the abstract of the disclosure because it is more than one paragraph. Accordingly, Applicants are amending the abstract to remove carriage returns therein so that the abstract is now a single paragraph. Therefore, Applicants request withdrawal of the objection.

Claim Rejections – 35 U.S.C. §103(a)

The Examiner rejected claim 1 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,418,446 to Claussen (hereinafter *Claussen*) and over U.S. Patent No. 6,649,872 to Kato et al. (hereinafter *Kato*). Applicants traverse.

The present invention is directed to a flux cored wire for gas shielded arc welding used to weld mild steels, low-temperature steels, low alloy steels, high-tensile strength steels and the like, which has a seam section for improving the rectilinear characteristics of the wire, thereby preventing the occurrence of bead meandering by controlling the deviation in the real tensile strength according to whether the flux is charged or not.

Meanwhile, *Claussen* is directed to a flux cored wire for gas shielded arc welding used to weld low alloy steels, in which a composition of the wire, a particle size of the flux and a charging rate are defined to thereby improve properties of a welding metal and welding performance. Further, *Kato* is directed to a flux cored wire for gas shielded arc welding used to weld low alloy steels, in which a composition of a wire is defined to thereby improve arc stability, and welding performance due to reduction of spatter.

A comparison of the present invention and *Claussen* and *Kato* in terms of purpose and configuration will be made in detail below.

1) Purpose

The present invention and *Claussen* and *Kato* are directed to the flux cored wire for gas shielded arc welding, and thus the present invention may be regarded as the same as *Claussen* and *Kato* in terms of use. Meanwhile, while the purpose of the present invention is to prevent the occurrence of bead meandering by improving the rectilinear characteristics of the wire, the purpose of *Claussen* is to improve the properties of the welding metal and welding performance, and the purpose of *Kato* is to improve arc stability and welding performance due to reduction of spatter. Therefore, the present invention is completely different from *Claussen* and *Kato* in terms of purpose.

2) Configuration

The present invention is distinguished from *Claussen* and *Kato* in terms of means to achieve the purpose.

In other words, in the present invention, the deviation in the real tensile strength of the wire according to whether the flux is charged or not is controlled to thereby achieve the purpose of the present invention. However, in *Claussen*, a composition of a wire, a particle size of a flux, and a charging rate are defined to thereby achieve the purpose of the invention, and in *Kato*, a composition of a wire is defined to thereby achieve the purpose of the invention.

The tensile strength of the wire, which is the feature of the present invention, is not taught by *Claussen*, and the real tensile strength of the wire according to whether the flux is charged or not is not disclosed either.

While the tensile strength is disclosed in *Kato*, this tensile strength represents a tensile strength of a welding metal. Therefore, the tensile strength of *Kato* is different from the tensile strength of a welding wire itself according to whether the flux is charged or not disclosed in the present invention. The tensile strength of the wire is completely different from the tensile strength of the welding metal, and the effects thereof are different from each other as well.

As can be seen from Table 3 of the Specification, the real tensile strength is appropriately controlled by various manufacturing methods, so that rectilinear characteristics of the flux cored wire are improved, and the occurrence of bead meandering is reduced.

As described above, since the real tensile strength according to whether the flux is charged or not and the purpose of the present invention are not taught by *Claussen* and *Kato*, the

present invention could not have been easily conceived of by one of ordinary skill in the art to which the invention pertains based on *Claussen* and *Kato*.

3) Conclusion

As described above, the present invention is different from *Claussen* and *Kato* in terms of purpose and means to achieve the purpose. Also, since the present invention reading on the deviation in the real tensile strength according to whether the flux is charged or not could not have been easily conceived of by one of ordinary skill in the art to which the invention pertains based on *Claussen* and *Kato*, the present invention has inventiveness compared with *Claussen* and *Kato*.

New Claim

New claim 2 is a method claim corresponding to claim 1. No new matter is being added. As the Examiner stated that neither *Claussen* nor *Kato* teach the method of manufacturing, claim 2 is patentable over *Claussen* and *Kato*.

If the Examiner has any questions or needs any additional information, the Examiner is invited to contact the undersigned.

Respectfully submitted,
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